

PROACT FACT SHEET



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Hazardous Waste Identification

The Resource Conservation and Recovery Act (RCRA) of 1976, promulgated in Title 42 United States Code (U.S.C.) § 6901 *et seq.*, governs the “cradle to grave” management of hazardous waste. The main objectives of RCRA are the protection of the environment and the conservation of natural resources. Through the reduction and elimination of hazardous waste by material recovery and reuse, and the proper treatment, storage, and disposal of hazardous waste, RCRA seeks to preserve and enhance the quality of the environment and protect human health. This first installment in a series of fact sheets covering RCRA regulations, found in Title 40 Code of Federal Regulations (CFR) Parts 260 through 282, outlines Subtitle C and discusses hazardous waste identification, listing, and characterization.

Waste Identification

Under RCRA, a hazardous waste is any solid waste or mixture of solid wastes, which due to its quantity, concentration, or physical and chemical characteristics may

- 1) cause or significantly contribute to human illness and
- 2) pose a potential hazard to human health or the environment when improperly managed.

The term solid waste is defined as any discarded material including solid, liquid, semisolid, or contained gaseous material. Thus, RCRA may apply to any waste regardless of its physical form. [Definitions paraphrased from 42 U.S.C. 6903]

The initial step in identifying a waste as hazardous is to determine if the abandoned, recycled, or “inherently waste-like” material is classified as solid waste. If it is determined the material is a solid waste, then

ascertain whether the waste meets any of the exclusions under Title 40 CFR 261.4. Should a solid waste not be excluded, a hazardous determination must be made. A solid waste is hazardous if it is specifically listed by the EPA, exhibits any characteristic of a hazardous waste, or is a mixture or derived waste containing either a listed hazardous waste or exhibiting any characteristic of a hazardous waste.

Listed Waste

The Environmental Protection Agency (EPA) has identified certain wastestreams as hazardous based on 1) if the waste poses a threat to human health and the environment, 2) if it exhibits a hazardous waste characteristic, or 3) is believed to meet the statutory definition of a hazardous waste. Four specific lists of designated hazardous waste have been established and published in Title 40 CFR 261, Subpart D:

- *F Series* – designates hazardous wastes from nonspecific sources
- *K Series* – designates hazardous wastes from specific sources
- *P Series* – designates acutely hazardous wastes from commercial chemical products
- *U Series* – designates toxic hazardous wastes from commercial chemical products

Waste Characterization

Solid waste not listed in Subpart D is still considered hazardous if it exhibits one or more of the following characteristics: ignitability, corrosivity, reactivity, or toxicity. These characteristics, summarized below, are fully described in Title 40 CFR 261, Subpart C.

- *Ignitability* – wastes capable of causing a fire or sustaining an existing fire. Specifically waste with a flash point less than 140 °F (60 °C) for liquids, non-liquids capable of causing fire under standard temperature and

pressure, ignitable compressed gas or an oxidizer as defined by the Department of Transportation.

- ▶ **Corrosivity** – wastes which corrode metals or other material. Specifically aqueous wastes having a pH less than or equal to 2 or greater than or equal to 12.5; and liquid wastes that corrode steel at a rate greater than 0.250 inches (6.35 mm) per year at a temperature of 130°F (55°C).
- ▶ **Reactivity** – unstable wastes having a tendency to react violently or explode. Specifically wastes which react violently with water, wastes that form potentially explosive mixtures with water, or wastes when mixed with water produce toxic fumes in a quantity to present a danger to human health or the environment. In addition wastes that contain cyanide or sulfide which when exposed to pH conditions between 2 and 12.5 generate toxic gases, wastes capable of detonation or reaction if subjected to a strong initiating source or if heated under confinement, or wastes that are readily capable of detonation or reaction at standard temperature and pressure.
- ▶ **Toxicity** – wastes capable of leaching into the surrounding environment. Specifically wastes that fail the toxicity characteristic leaching procedure (TCLP) test method indicating the waste contains contaminants equal to or greater than concentration levels established in Table 1, Title 40 CFR 261.24.

Mixed & Derived Wastes

The EPA developed the mixed rule and derived-from rule to address the mixing of a hazardous waste with nonhazardous wastes and the residues derived from the treatment, storage, or disposal of a

hazardous waste. In May 2002, the EPA revised the mixture and derived from rules to more specifically match the risks posed by particular wastes. Both rules were revised to eliminate mixed or derived waste from being classified as a hazardous when mixed with or derived from a hazardous waste listed solely due to its ignitability, reactivity, and/or corrosivity and the resulting mixture or derived waste does not exhibit any of these characteristics. However, if solid waste is mixed with or is a waste derived from hazardous waste listed, in Subpart D, for any other reason it is automatically considered a hazardous waste.

For More Information...

The EPA has granted states the authority to administer and enforce state hazardous waste programs. Coordination with state regulatory officials is recommended to ensure compliance, since state programs may be more stringent than federal guidance established in Title 40 CFR Parts 260 through 282.

Additional information regarding RCRA, state hazardous waste programs, and hazardous waste compliance within the Air Force may be obtained by contacting PROACT at DSN 240-4214 or by visiting the following websites.

↳ Hazardous Waste, Office of Solid Waste, U.S. Environmental Protection Agency, <http://www.epa.gov/epaoswer/osw/hazwaste.htm>. Site provides EPA guidance and access to regulations established under RCRA.

↳ Environmental Quality Directorate, Air Force Center for Environmental Excellence, <http://www.afcee.brooks.af.mil>, which provides general Air Force policy and guidance.

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